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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

March 26, 2003

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Ms. Susan Roth
Roth Consulting
6236 27th Avenue NE
Seattle, WA 98115-7114

Dear Ms. Roth:

RE: Comments on the Draft Bridge Document Report 2 and Ongoing Site Investigation
Direction: Terminal 91 Tank Farm Site Agreed Order No. DE 98HW-N108

The Draft Bridge Document Report 2 (BDR2) prepared for the Terminal 91 Site PLP Group (PLP Group) by Roth Consulting, was received by the Department of Ecology (Ecology) on February 3, 2003. This report addresses the portion of the Port of Seattle (POS) Terminal-91 facility where RCRA corrective action is being performed pursuant to the Model Toxics Control Act (MTCA) Agreed Order No. DE 98HW-N108.

Comments from Ecology are attached to this correspondence. The Draft BDR2 will need to be revised to satisfactorily address the comments, and resubmitted within sixty (60) days after you receive this correspondence. Some of the comments are not directed at specific passages in the BDR2, and may be more related to the ongoing groundwater remedial investigation, but are provided at this time so that Ecology can more clearly articulate our expectations for completing the RI/FS. Some of these groundwater investigation issues may be discussed during the upcoming meeting with the PLPs on March 28th, when the PLPs will present the major proposals included in your 3/31 work plan.

In addition, as an administrative update:

- Mike Kuntz, who has been working on the site for the last few years providing hydrogeological support, has been re-assigned by his program to work on other sites due to budgetary issues within the Agency. This will take effect by the end of March.
- Galen Tritt will be out of the office for the months of April and May, so in his absence the temporary site manager will be Ed Jones. He can be reached Monday, Tuesday, Thursday, and Friday at (425) 649-4449 or by email at ejon461@ecy.wa.gov.

USEPA RCRA

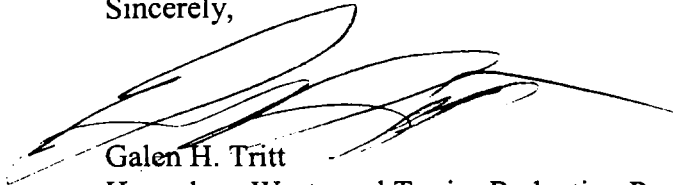
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Ms. Susan Roth
Comments on Draft Document Report 2
March 26, 2003

Page 2 of 8

Thank you for your submittal. If you have any questions or comments, or would like to schedule a meeting to resolve comments, please contact me at the Department of Ecology Northwest Regional Office by phone at (425) 649-7280 or by email at gttri461@ecy.wa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Galen H. Tritt', with a long horizontal flourish extending to the right.

Galen H. Tritt
Hazardous Waste and Toxics Reduction Program

GHT:sd

cc: Julie Sellick, Ecology-NWRO
Ed Jones, Ecology-NWRO
Michael Kuntz, Ecology-HQ-TCP
Jan Palumbo, EPA Region 10
HZW File 6.2

General Comments

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 - What assumptions or hypotheses about the nature and extent of GW contamination need to be tested prior to submitting the RI/FS Report?
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3. The BDR2 should present a hypothesis about current and future levels of risk potentially posed by contaminated surface water and sediments to **ecological receptors**. The exposure and migration pathways of concern should be identified, and associated data gaps that the PLPs intend to fill prior to completing the RI/FS should be proposed.
4. Data to determine seasonal variation in water levels and COPCs at the site have been collected in the past. The BDR2 should hypothesize what the likely trends/patterns are, if any, and in so doing, identify what the outstanding data gaps are (in terms of characterizing seasonal variations)¹.
5. No monitoring objectives were provided in the SAP for assessing background contributions to groundwater. Since achieving consensus on the determination of background values, as well as the use of those values, can be contentious, the BDR2 or a separate work plan should propose the methodology for determining background and indicate how, specifically, the values will be used in the RI/FS.
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Specific Comments

1. Page 2 second paragraph refers to "the Pier 89/90 slip." Is this correct or should it be the Pier 90/91 slip?
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The BDR should be revised to include these exposure pathways.

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 - Ecological receptors exposed, in the future, to sediments contaminated by these chemicals via GW discharge to surface water
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The reason it is helpful to keep these specific pathway linkages clear is that while detections of constituents in GW from 1998 on should be included on any *site* COPC list, they are unlikely to be the only COPCs we need to account for. For example, Ecology and the PLPs have the additional RI/FS task of assessing:

- Ecological receptors already exposed to sediments, contaminated by chemicals discharged to surface water via GW in the past (before '98)
- Humans and ecological receptors currently exposed to contaminants by ingesting ecological receptors exposed to media contaminated by historic GW discharge

- Humans and ecological receptors exposed to contaminants in the future by ingesting ecological receptors exposed to media contaminated by historic GW discharge

The BDR1 and BDR2 COPC lists, therefore, may not include constituents that were present in GW prior to monitoring, and have subsequently entered surface water and contaminated sediments. This should be acknowledged in the report.

5. Page 7. While it is fairly obvious why newly detected constituents (in GW) should be added to the COPC list, it is less clear why it is appropriate to remove the 26 chemicals detected in the past, which have not been detected over the past two years. Ecology agrees that their "absence" implies that GW discharges no longer carry significant levels of these chemicals to surface water and sediments, but as noted above, their presence in samples historically suggests a concern for loading to sediments in the past. The PLPs should make it clear in the revised report what specific exposure/migration pathways will be assessed by the results obtained from GW monitoring using the presented analyte list.
6. Section 2.4.1 and the related figures. What is the most recent data from the "short fill" monitoring wells and how do the PLPs plan to incorporate this information into your overall site assessment? Can you address how this information is relevant (or show that it is not relevant) to the site investigation work?
7. Page 12, Section 2.4.2.1. This section discusses the "anomaly" at MW GP-02. Considering that a 1920 gasoline tank and pump were located close to this location, the results from sampling this well may not be so unexpected. It would also indicate that additional work would need to be considered on Pier 90. Provide for additional data collection within the future work plan to address this area of concern.
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account for the lack of a pattern to concentrations along flow lines. If upgradient metals concentrations are relatively stable/steady state, though they are variable over distance perpendicular to flow lines, we should expect that downgradient concentrations should show the same patterns. Since this is not the case, a data gap for the RI seems to be to discover the cause of this site-wide variability². As noted above, proposals for determining and using background concentrations of COPCs should either be included in the revised report or presented in a separate work plan.

11. Page 27. Here, the PLPs provide "Recommendations for Additional Work." Bullets 1, 3, 5, and 6 appear reasonable. Please revise this section to include information that addresses comments on the other bullets. It should be noted that:
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 - b) The future RI/FS Report will focus on the site's COPCs, and narrow this list to the COCs that the FS must consider in evaluating potential remedies. It is worthwhile to continue screening exposure pathways to determine if the pathways are viable, and if they are, which COPCs could be responsible for unacceptable risk/harm. For the following exposure pathways, it appears to Ecology that the PLPs are making the noted progress:
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²Potential causes may include: non-stable/steady state concentrations upgradient (i.e., "pulsing"); on-site local sources; local geochemical conditions favoring more or less solubility/retardation; preferential GW pathways, or at least local variations in flow which our potentiometric surfaces have been insensitive to; etc.

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- c) As noted previously, an effort to determine background concentrations of metals found in on-site GW, at levels exceeding CULs, should be included in the BDR or made the subject of a new workplan. As part of this activity it may be informative to "research" GW concentrations upgradient of the site, but the tasks associated with the background determination effort should be the product of following the *DQO* process and linking data collection with specific uses of the data.
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- e) It would be helpful to know the history of the bulkheads. The various bulkheads have been built at different times and using different materials. Knowing when certain bulkheads were constructed in association with historical information on both the Tank Farm site and the additional Upland AOCs could shed light on whether or not contamination could have reached the surface water or sediments.
12. Figure 16. Ecology and the PLPs should discuss how and when the AOCs and other potential source areas on this figure would be dealt with in the RI/FS Report. It would be helpful if a brief description of when the PLPs expect to integrate the AOC information into the site assessment was made in the BDR2 report.

13. Table 3. Like Tables 1 and 2, this table contains good information, and was a good addition to the document. As noted above, however, the PLPs need to be careful about terminology in the revised, and future, reports when referring to the site's COPCs. GW constituent levels below screening levels **presently** do not, by themselves, indicate that offshore sediments have not been unacceptably contaminated in the past.

Response to comments on BDR1 (November 21, 2001)

PLP response to Ecology Comment 2. Screening Levels-EDB, MTBE, N-hexane, VPH/EPH

- Ecology does not agree with the assessment of the PLPs and recommends that a sample and analysis for EPH/VPH be considered at least once near the seafood processing building. This information can then be used to screen-out a petroleum (fraction) concern via vapor intrusion. To the extent that there are no other ground water related exposure pathways (other than groundwater contaminating surface water and sediments), it is likely that additional EPH/VPH analyses would not be needed.
- Even though there are no published bio-concentration factors for TPH constituents, this does not exclude the possibility of the need for a future Whole Effluent Toxicity (WET) testing. This WET testing on representative groundwater discharging to Elliot Bay could still be required under WAC 173-340-730(3)(b)(ii), so it should not be discounted at this point of the investigation. This should be discussed or acknowledged in the PLP's response to Ecology's comments on BDR2.

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